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CALIFORNIA LEGISLATURE—2015–16 REGULAR SESSION

ASSEMBLY BILL No. 2329

Introduced by Assembly Member Bonilla
(Principal coauthor: Assembly Member Chiu)
(Coauthors: Assembly Members Travis Allen, Calderon, Chang, Dababneh, Gonzalez, Kim, Lackey, Low, Obernolte, and Olsen)

February 18, 2016

An act to add and repeal Chapter 19 (commencing with Section 53310) of Part 28 of Division 4 of Title 2 of the Education Code, relating to school curriculum.

LEGISLATIVE COUNSEL'S DIGEST

AB 2329, as amended, Bonilla. Computer science strategic implementation plan.

Existing law requires the Instructional Quality Commission, on or before July 31, 2019, to consider developing and recommending to the State Board of Education computer science content standards for kindergarten and grades 1 to 12, inclusive, pursuant to recommendations developed by a group of computer science experts convened by the Superintendent of Public Instruction in consultation with the state board.

This bill would require the Superintendent to convene, on or before September 1, 2017, a computer science strategic implementation advisory panel composed of ~~20~~ *23* members, as specified, to develop

and submit recommendations for a computer science strategic implementation plan to the State Department of Education, the state board, and the Legislature on or before July 1, 2018. The bill would require the department and the state board to consider the advisory panel's recommendations, to develop and adopt a computer science strategic implementation plan, and to submit the plan to the Legislature on or before January 1, 2019. The bill would require the Superintendent to appoint a statewide computer science liaison to serve the advisory panel, as provided. The bill would authorize the advisory panel, if state or federal funds are not available or sufficient for purposes of the bill's provisions, to evaluate the process and ability to accept grants and receive donations and other financial support from public or private sources for purposes of convening the advisory panel, preparing the computer science strategic implementation plan, and ensuring that the recommendations are considered by the appropriate stakeholders. The bill's provisions would be repealed on January 1, 2021.

Vote: majority. Appropriation: no. Fiscal committee: yes. State-mandated local program: no.

The people of the State of California do enact as follows:

SECTION 1. (a) The Legislature finds and declares all of the following:

(1) Computer science education is not only about access to computers. It is about innovation and development of technology. Computer science education builds pupils' computational and critical thinking skills, which enables them to create, and not simply use, the next generation of technological tools. This fundamental knowledge is needed to prepare pupils for the 21st century regardless of their ultimate field of study or occupation.

(2) Computer science drives job creation and innovation throughout our state's economy. Providing access to computer science education is a critical step for ensuring that California remains competitive in the global economy and strengthens its cybersecurity. Last year, there were over 600,000 technology jobs open across the United States, and, by 2018, 51 percent of all science, technology, engineering, and mathematics (STEM) jobs are projected to be in computer science-related fields. In California, there are currently 86,436 open computing jobs, which is four times the average demand rate in California.

(3) Computing occupations make up two-thirds of all projected new jobs in STEM fields, making computer science one of the most in-demand college degrees. However, California only had 3,525 computer science graduates in 2014 with only 15 percent female graduates.

(4) There are fewer advanced placement (AP) examinations taken in computer science than in any other STEM subject area. Of the high school pupils in California who took the AP computer science examination in 2015, only 26 percent were female, only 973 were Latino, and only 148 were African American. Only 242 schools in California, or 16 percent of California schools with AP programs, offered the AP computer science course in the 2013–14 school year.

(5) President Obama's Computer Science for All initiative builds on the momentum at the state and local level. The President's upcoming budget proposes funding for the United States Department of Education, available over three years, for states to increase access to computer science education in elementary and secondary education classrooms. Under the program, states would submit comprehensive five-year "Computer Science for All" plans in order to be eligible for federal funding, and every state with a well-designed strategy would receive funds. In addition to state-level grants, the budget will also dedicate funds for competitive grants specifically for leading districts to execute ambitious computer science education expansion efforts for all pupils, including traditionally underrepresented pupils, with those efforts to serve as models for national replication.

(6) However, access to computer science education for all pupils is still a challenge especially for underrepresented communities. Only one out of four K–12 schools teaches any computer science, leaving 75 percent of pupils today without the opportunity to develop skills that could help them thrive in the future.

(7) Exposure to computer science at a young age has the potential to address the diversity gap in computer science fields. Girls who take AP computer science in high school are 10 times more likely to major in computer science in college. African American and Latino pupils who take this course in high school are over seven times more likely to major in this field.

(8) A Google-Gallup survey found that 9 out of 10 parents say they want computer science taught in their schools, and the

majority of parents and teachers believe it should be required learning for 21st century pupils.

(9) Computer science has often been confused with broader technology education in schools. California should adopt distinct standards for computer science focused on both the creation and use of software and computing technologies at all levels of K–12 education.

(b) It is the intent of the Legislature that all pupils in kindergarten and grades 1 to 12, inclusive, have access to computer science education, with a strong focus on pupils underrepresented in computer science, including girls, low-income and underserved school districts, and rural and urban school districts.

(c) It is the intent of the Legislature that the only predetermined outcome be to increase access to computer science in California schools and to account for disparate views as recommendations are provided.

SEC. 2. Chapter 19 (commencing with Section 53310) is added to Part 28 of Division 4 of Title 2 of the Education Code, to read:

CHAPTER 19. COMPUTER SCIENCE STRATEGIC IMPLEMENTATION PLAN

53310. *(a)* On or before September 1, 2017, the Superintendent shall convene a computer science strategic implementation advisory panel to develop recommendations for a computer science strategic implementation plan. The advisory panel shall hold public meetings, post the location and time of the meetings, and post agendas online. Members of the advisory panel shall possess expertise in computer science. ~~The~~

(b) The advisory panel shall consist of, but not necessarily be limited to, the following members:

~~(a)~~

(1) The Superintendent or his or her designee, who shall serve as the cochair of the advisory panel.

~~(b)~~

(2) A representative of the Governor, who shall serve as the cochair of the advisory panel.

~~(c)~~

(3) A representative designated by the Senate Committee on Rules.

~~(d)~~

(4) A representative designated by the Speaker of the Assembly.

~~(e) (1) Three~~

(5) (A) Six K–12 teacher representatives, designated by the Superintendent.

~~(2)~~

(B) It is the intent of the Legislature that these representatives include ~~one~~ *two* elementary ~~teacher, one~~ *teachers, two* middle school ~~teacher,~~ *teachers,* and ~~one~~ *two* high school ~~teacher.~~ *teachers who are all currently teaching.*

~~(3)~~

(C) It is further the intent of the Legislature that these representatives include one teacher from a large urban school district and one from a rural school district.

~~(f)~~

(6) A representative representing the Commission on Teacher Credentialing.

~~(g)~~

(7) A ~~representative~~ *credentialed teacher* representing the Computer Science Teachers Association.

~~(h)~~

(8) A representative of the private sector technology industry, designated by the Superintendent.

~~(i)~~

(9) A ~~representative~~ *faculty member* from the University of California.

~~(j)~~

(10) A ~~representative~~ *faculty member* from the California State University.

~~(k)~~

(11) A ~~representative~~ *faculty member* from the California Community Colleges.

~~(l)~~

(12) A ~~representative~~ *faculty member* from a private postsecondary educational institution, designated by the Superintendent.

~~(m)~~

(13) A ~~representative~~ *credentialed teacher* from the Instructional Quality Commission.

~~(n)~~

(14) A representative from ~~a~~ *an equity-focused organization knowledgeable of* computer science/STEM education ~~and research program,~~ *programs,* designated by the Superintendent.

~~(o)~~

(15) A representative from a parent organization, designated by the Superintendent.

~~(p)~~

(16) A representative representing school administrators and superintendents, designated by the Superintendent.

~~(q)~~

(17) A pupil enrolled in a public school, designated by the Superintendent.

~~(r)~~

(18) A representative from a county office of education, designated by the Superintendent.

(c) Administrators from the University of California, the California State University, and the California Community Colleges may serve as advisors to the advisory panel to provide input on the computer science strategic implementation plan.

53311. (a) On or before July 1, 2018, the computer science strategic implementation advisory panel shall submit recommendations for a computer science strategic implementation plan to the department, the state board, and the Legislature that includes, at a minimum, recommendations on all of the following:

(1) Broadening the pool of teachers to teach computer science. These recommendations may provide, among other things, for the following:

(A) Providing training and professional development for education in computer science pursuant to Section 60605.4.

(B) Creating a teacher certification pathway in computer science.

(C) Expanding scholarship eligibility and loan forgiveness programs for computer science teachers in low-income and underserved school districts and rural and urban school districts.

(2) Defining computer science education principles that meet the needs of pupils in kindergarten and grades 1 to 12, inclusive.

(3) Ensuring that all pupils have access to quality computer science courses. These recommendations may provide, among other things, for the following:

(A) Scaling up computer science education coursework so that all high schools teach at least one computer science course.

(B) Providing access to computer science in both college and career pathways.

(C) Ensuring school districts have adequate broadband connectivity and infrastructure and access to hardware and software. This may include, but is not limited to, the development of grant programs that prioritize high-need school districts.

(D) Removing local policy and regulatory barriers that local educational agencies face when implementing computer science education.

(E) Increasing the participation of pupils traditionally underrepresented in computer science education.

(b) The recommendations shall be submitted to the Legislature in conformance with Section 9795 of the Government Code.

(c) Upon completion of the recommendations for a computer science strategic implementation plan, the computer science strategic implementation advisory panel established pursuant to Section 53310 shall cease.

53312. (a) The Superintendent shall appoint a statewide computer science liaison within the department to serve the computer science strategic implementation advisory panel, including, but not limited to, in the following the actions:

(1) Coordinating the efforts of the advisory panel by writing up the recommendations of the advisory panel members and disseminating them to all stakeholders.

(2) Soliciting input and public comments.

(3) Preparing the necessary legislative reports to share the advisory panel's recommendations.

(4) Ensuring that the advisory panel's recommendations are considered in order to achieve the intentions of the computer science strategic implementation plan.

(b) The duration of the liaison's role shall only be through the implementation of the computer science content standards and curriculum frameworks in order to ensure that the recommendations from the computer science strategic implementation advisory panel are considered for implementation.

53313. The department and state board shall consider the recommendations submitted by the computer science strategic implementation advisory panel pursuant to Section 53311, shall develop and adopt a computer science strategic implementation plan, and shall submit the plan to the Legislature in conformance

with Section 9795 of the Government Code on or before January 1, 2019.

53314. If state or federal funds are not available or sufficient for purposes of this chapter, the computer science strategic implementation advisory panel may evaluate the process and ability to accept grants and receive donations and other financial support from public or private sources for purposes of convening the advisory panel, preparing the computer science strategic implementation plan, and ensuring that the recommendations are considered by the appropriate stakeholders.

53315. This chapter shall become inoperative on July 31, 2020, and, as of January 1, 2021, is repealed, unless a later enacted statute, that becomes operative on or before January 1, 2021, deletes or extends the dates on which it becomes inoperative and is repealed.

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